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FINANCING SCIENCE AND TECHNOLOGY FOR DEVELOPMENT, INCLUDING ACTIVITIES OF THE UNITED NATIONS FUND FOR SCIENCE AND TECHNOLOGY FOR DEVELOPMENT

Organization of a coalition of resources to finance science and technology for development

Report of the Secretary-General

SUMMARY

A major issue facing the international community in the field of science and technology is how to ensure the flow of adequate resources, especially financial resources, into developing countries, in order to support the creation and strengthening of their endogenous scientific and technological capacities as a crucial input into harnessing science and technology for development. This has been an issue on the agenda of the United Nations since the early 1980s, particularly in the context of the agreement reached at the United Nations Conference on Science and Technology for Development to create a separate and self-sustaining financing system for science and technology. Strenuous efforts over several years, involving expert groups, special emissaries and international negotiations, have not been able to fulfil the high expectations of the international community, especially the developing countries.

The General Assembly, while commemorating the tenth anniversary of the adoption of the Vienna Programme of Action on Science and Technology for Development, agreed to adopt a different approach. Instead of continuing to attract donor support to a financial system or a fund, it decided to explore the possibility of organizing a more effective coalition of resources. Such a

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coalition should be drawn from a variety of sources, including bilateral and multilateral funding bodies which are willing to participate and prepared to contribute voluntarily, while retaining some measure of control over how funds are utilized.

The present report is intended to assist the Commission in formulating concrete proposals for organizing a more effective coalition of resources to meet the scientific and technological needs of developing countries, as requested by the General Assembly in resolution 46/165. The report addresses the questions of how a coalition of resources could be built, how it should function and how to attract funds for it from international funding bodies, donor countries and other potential partners. It deals with the global economic situation, the substantive setting, lessons to be learned from past efforts, basic assumptions to be noted and alternative models and their structures and modes of operation.

One alternative would be to establish a mechanism that would facilitate, among interested donors and participants, information exchange, policy coordination and the creation of guidelines to assist individual partners in carrying on with their separate activities.

A second alternative would be to establish an international association/council for science and technology. The association/council would meet periodically to mobilize resources and an executive board would manage and allocate funds to specific endogenous capacity-building projects. The association/council would be supported by the United Nations Secretariat and the United Nations Fund for Science and Technology for Development (UNFSTD), and would appraise projects submitted by developing countries.

However, some important details need to be worked out. For example, what should be the criteria for judging the viability of the association/council? Should it be based on a cut-off level, a critical mass of funds or a minimum number of partners and should these include any make-or-break organizations? How should resources be utilized in a manner that would allow contributors to retain some measure of control? What should be the modalities through which domestic resources are organically integrated with external resources and should there be any minimum domestic contribution? Should the contributions of developing countries, particularly low-income countries, be in kind or only in cost? Should the association/council attempt to attract funds from the private sector and if so in what manner? What kind of secretariat arrangements would be necessary in order to provide the association/council with the required substantive support and avoid creating a new bureaucracy, while entailing minimal additional cost? And most important, more extensive and detailed consultations with the donor community in general and important funding bodies in particular would be required before such an association/council could be organized and established. Such consultations, to be fruitful, should take place on the basis of concrete proposals formulated by the Commission and endorsed by the General Assembly.

Such a structure would answer several needs simultaneously: the need for flexibility without losing specificity; for secretariat support without creating a new bureaucracy; for sharper programmatic focus within the rubric

of science and technology; for a politically balanced framework within which member organizations could further these mandates and donor countries could contribute; for aid coordination that would include donor-recipient and issue-based coordination; and finally the need for connecting endogenous capacity-building with sustainable development.

The Commission may wish to review the alternative models presented for constructing a coalition of resources for science and technology, bearing in mind the intent of Member States as incorporated in General Assembly resolutions; to make necessary adjustments and innovations in order to respond to the emerging needs of developing countries; and to formulate concrete proposals for consideration by the General Assembly. It may also wish to provide substantive guidance for the work of the Secretariat on this subject.

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I. INTRODUCTION

A. Background

1. The General Assembly in resolution 44/14 D, reaffirmed the need for adequate resources on a continuous and assured basis to foster science and technology for development in accordance with the priorities of developing countries and requested the Secretary-General to explore the possibility of organizing a more effective coalition of resources. The former Intergovernmental Committee on Science and Technology for Development considered the question at its eleventh session, in 1991, and requested the Secretary-General to submit to it, at its twelfth session, proposals for action on how to organize such a coalition, prepared in close cooperation with the donor community, including the regional development banks and organizations of the United Nations system, especially the World Bank and the United Nations Development Programme (UNDP). The Assembly endorsed the request in resolution 46/165 and requested the Intergovernmental Committee, or possible successor arrangements, to submit to the Assembly at its forty-eighth session concrete proposals for organizing a more effective coalition of resources to meet the scientific and technological needs of developing countries.

2. The present report has been prepared in response to those requests, in consultation with the Administrative Committee on Coordination Task Force on Science and Technology for Development at its thirteenth session. In considering this report, it is important to bear in mind a few salient features. First, the international political and economic situation in the last two or three years has changed considerably, which will have a profound bearing on establishing and operating new financing modalities. The full implications of organizing a coalition of resources for science and technology at the current juncture need to be carefully reviewed, taking fully into account the fact that the exercise in question is at once an economic and a political undertaking.

3. Second, careful note should be taken of the outcome of the United Nations Conference on Environment and Development (UNCED), especially the science and technology related recommendations of Agenda 21 (A/CONF.151/26/Rev.1 (Vol. I)) and those concerning financing. 1/ Third, it is essential that the right lessons should be learned from the efforts made in the 1980s to create a self-sustaining financial system for science and technology before establishing or even conceiving a new modality. The basic fact remains that while there is a broad consensus that the science and technology needs of developing countries must be globally supported, there are deep differences among Member States on what means are to be employed to arrange and accomplish such support. Some would like it to take the form of a large, identifiable and distinct entity, while others, principally the industrialized countries, would prefer support to be diffused and sustained by existing organizations. Although the idea of a coalition is designed to be a compromise, it is still giving rise to different interpretations and hypotheses. To give flesh and blood to this concept will require substantial work, spanning a wide intellectual and political area.

4. In preparing the present report, the Secretariat took as a starting-point and frame of reference the proposals and concepts contained in the report of the Secretary-General on Financing Science and Technology for Development

(A/CN.11/1991/3), which was considered by the former Intergovernmental Committee on Science and Technology for Development at its eleventh session. The views expressed by Member States during the discussion on this topic were also considered. The mandate given to the Secretary-General by the General Assembly was not to debate the need for a coalition of resources - in several ways it already exists - but to make proposals on how to organize a more effective coalition and impart momentum to the process of building the endogenous scientific and technological capacities of developing countries.

5. Unlike a financing system or a fund, a coalition cannot be created and certainly cannot be sustained unless the important funding bodies and major donor countries are persuaded to join and participate in its operations, which requires extensive consultations and interfacing with donor agencies and countries. The Secretariat approached this task in several formal and informal ways, including presenting the subject for consideration by the Administrative Committee on Coordination Task Force on Science and Technology for Development. The topic was also discussed by the former Advisory Committee on Science and Technology for Development and at a meeting convened jointly by the United Nations and the Swedish Agency for Research Cooperation with Developing Countries, held at Tallberg, Sweden in June 1991.

6. The United Nations Secretariat also consulted with important funding agencies such as the World Bank, the Inter-American Development Bank, the African Development Bank and the Asian Development Bank. Consultations were tentative in nature and not based on any specific plan. More substantive consultations will take place after the Commission has had a chance to discuss this issue and provide guidance and guidelines for its consideration. The Commission may also wish to provide some guidance on how best to interface with the donor community and to identify the means through which it wishes to consider the matter in the inter-sessional period following the present session.

B. Recent developments

7. Since the adoption of General Assembly resolutions 44/14 and 46/165, several important developments have occurred that need to be taken into account, the most important of which was the United Nations Conference on Environment and Development. Future international efforts in science and technology will have to take into account the science and technology related provisions of Agenda 21. At the substantive level, the concept of home-grown capacity (that is, the capacity to manage technological change, including the ability to make informed choices; to monitor, assess and foresee technological developments; and to adapt and assimilate knowledge into the productive system) is fully in consonance with the pursuit of sustainable development. General Assembly resolution 44/228, inter alia, requested the Conference to consider various funding mechanisms, including voluntary ones, and to examine the possibility of a special international fund with a view to ensuring, on a favourable basis, the most effective and expeditious transfer of environmentally sound technologies to developing countries.

8. UNCED agreed that funding for Agenda 21 and other outcomes should be provided from sources and in a manner that maximizes the availability of new and additional resources and makes use of all available funding sources and

mechanisms. It did not, however, agree on any separate funding mechanisms for environmentally sound technologies, and the needs of developing countries in this regard, as in other areas, are expected to be met through the sources identified for financing Agenda 21 as a whole.

9. This makes the current exercise both more complex and more challenging. If the UNCED participants, in spite of intense high-level negotiations, could not agree on the need for financing modalities for access to and generation of technologies that are environmentally sound, what is the likelihood of creating a new mechanism for science and technology per se?

10. It is critical that the issue of a coalition of resources for science and technology be addressed in conjunction with the various initiatives in related fields, particularly in the fields of technology, development financing and the environment. The consideration of the issue of development financing at the forty-eighth session of the General Assembly may provide useful guidelines for pursuing a coalition of resources for science and technology and related issues.

II. FINANCING SCIENCE AND TECHNOLOGY FOR DEVELOPMENT

A. Overview

11. The International Development Strategy for the Fourth United Nations Development Decade, adopted by the General Assembly in resolution 45/199, constitutes a major policy framework and frame of reference for elucidation and implementation in the different development domains in the 1990s. It attached considerable importance to science and technology. Inter alia, it stated that:

> "The reactivation of development in the decade of the 1990s on a sustained basis will be linked to the ability of developing countries to participate in the rapid advances in science and technology that have characterized the global economy in recent years and will continue in the future. Knowledge is today a crucial determinant of economic progress. The knowledge gap between developed and developing countries has been widening, and policies and measures are needed to help narrow it over the coming decade. High priority must therefore be given by the developing countries to raising their endogenous capacities and capabilities in this area (para. 56).
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> "...
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> "Building the scientific and technological capability of developing countries calls for external assistance in research and development, in the establishment and strengthening of institutions in the area of science and technology, in the diffusion of new technologies and in the training of scientific cadres" (para. 59).

12. How to finance development needs has been and continues to be a major issue on the international agenda. In this respect, there is a qualitative difference between the situation prevailing in the 1980s and the one that confronts policy makers in the 1990s. During the 1980s the focus was overwhelmingly on the investment needs of the developing world, which during the 1990s also includes

the needs of economies in transition. In addition, there is a growing demand for savings and capital in the developed countries to finance their domestic infrastructure needs as well as to enhance their productivity and competitiveness. As a result, investment capital, particularly of the concessionary kind, has become more scarce. Financing development needs of developing countries, especially through external sources, has become more complex as a result of these and other factors.

13. The increase in global awareness that economic processes should be sensitive to environmental and ecological concerns has introduced another new dimension to development. UNCED has introduced a new sensitivity to global concerns, centred around economy, environment and equity.

14. It is in this setting that the topic of financing the scientific and technologic needs of developing countries has to be reviewed. The agreement to establish a long-term, self-sustaining financing system for science and technology, reached at the United Nations Conference on Science and Technology for Development held in 1979, was itself a result of a political compromise between the developed and developing countries. Some of the major donor countries went along with that compromise. Nevertheless, they maintained reservations on the need for specific modalities to finance science and technology in the developing countries. A major cause of disappointment, to both developing and developed countries, has been the unsuccessful intergovernmental negotiations, spread over a decade, to establish the financing system for the implementation of the Vienna Programme of Action for Science and Technology for Development (A/CONF.81/16 and corrigenda, chap. VII).

15. Several studies have been conducted, over the years, to determine exactly how much is spent on science and technology at the national and international levels, and with what impact. As stated in the report of the former Advisory Committee on Science and Technology for Development on its eighth session (A/CN.11/91), data (especially time series of data) on expenditures on science and technology in developing countries are difficult to obtain and once obtained are very difficult to use for the purposes of international comparisons. Barring a few countries, such as China, India and the newly industrialized countries, most developing countries have been unable to harness even 1 per cent of their gross national product (GNP) for science and technology. In global terms, the share of developing countries in research and development expenditure is less than 10 per cent and even that is concentrated in a few countries. The economic hardship experienced by most developing countries in the 1980s, especially the low-income countries in Africa, has further eroded their resource base for science and technology. On the other hand, most industrialized countries have consistently maintained an allocation of over 2 per cent of GNP, while in per capita terms the gap between the developed and developing countries is even more pronounced.

16. Although, in percentage terms, external funding of science and technology is relatively modest in most countries (less than 10 per cent), it is still a crucial factor as a catalyst and multiplier, especially for the least developed countries. When assessing the volume of that external funding, however, problems are encountered similar to those encountered when assessing domestic resources. One study conducted for the former Advisory Committee on Science and Technology for Development estimated that in 1989 the flow of financial

resources into developing countries for science and technology, more precisely for research and development, was US$ 2.4 billion, more than half of which was devoted to agriculture and rural development. As regards endogenous capacity-building, the former Advisory Committee on Science and Technology for Development has stated that the development of endogenous capacity in science and technology has not yet become a major issue on the policy agendas of donor agencies and there remain a long series of unanswered questions about the flows (A/CN.11/91, para. 73). Earlier attempts to augment the flow of resources into science and technology were also somewhat handicapped, since they did not include mechanisms for innovating and adjusting to rapidly changing economic and political conditions, new market-based approaches, development financing and a lack of interaction with the private sector.

B. External resources

17. Precise estimates of world-wide expenditure on science and technology are unavailable, partly because the boundaries between science and technology are not clearly defined: the numbers vary depending on the activities included under either category and the keywords used in search and selection. External resources are channelled both bilaterally and multilaterally. Since most aid is of a scientific or technological nature (although largely in the form of implicit inputs), it is difficult to segregate scientific and technological aid from official development aid and multilateral resources. The World Bank estimates that in the 1980s it spent over US$ 5 billion on science and technology, embracing three main categories: higher education; technology and industry; and infrastructure and energy. Similarly, regional development banks, such as the Inter-American Development Bank, have traditionally been actively involved in lending large sums to their member States for science and technology related activities.

18. More accurate figures are available for expenditure on research and development and provide some idea of the overall science and technology picture. It is estimated that total research and development expenditures by countries that are members of the Organisation for Economic Cooperation and Development (OECD) was US$ 309 billion in 1991, as compared to a total of US$ 20 billion for all developing countries over the same period. Total bilateral and multilateral external aid for research and development in all developing countries was estimated at US$ 2.0 billion in 1991. These figures should be viewed in the context of official development assistance expenditures by all donors of US$ 53 billion in 1991. 2/

19. The impact of these expenditures on endogenous capacity-building is hard to assess, due to the complexity of the concept of endogenous capacity-building and the difficulty of relating it to across-the-board operational activities centred around sectors. Traditionally, operational activities of the United Nations system have been involved in the transfer of technology to developing countries through: (a) policy studies and advisory services; (b) North-South negotiations on transfer of technology; and (c) financing and managing technology transfers as elements in individual technical cooperation projects. The focus on capacity-building is of relatively recent origin and activities have not been targeted on such complex and long-term processes. For example, a study conducted on the efficiency of the United Nations system in science and

technology in the early 1980s came to the conclusion that less than 15 per cent of expenditure on science and technology by the United Nations system impacted on endogenous capacity-building. 3/ Such figures are indicative of the overall situation and reinforce the need for conceiving a new means of financing capacity-building for science and technology activities. An explicit mechanism for capacity-building could have a multiplier effect, attracting greater international attention and inducing Governments to channel larger resources and provide incentives for private sector participation.

20. Organizing a coalition of resources would call for close cooperation with multilateral funding bodies. In that context, the role of development banks, especially the World Bank and regional development banks, such as the Inter-American, African and Asian Development Banks, becomes critical.

21. World Bank activities in science and technology can be generally divided into two categories: support for activities specifically geared to technological development and technological elements of loans and credits for productive activities. The first category comprises such activities as the financing of research, networks like the Consultative Group for International Agricultural Research (CGIAR), the Tropical Diseases Research programme and specific project loans for science and technology to countries like the Republic of Korea, Brazil and Mexico. The second category of activities of the Bank does not have the specificity of the first category but may have a more extensive impact on technological direction and development. These activities are embedded and implicit in the full range of World Bank activities and in its project cycle, from project conception through formulation and appraisal to evaluation, including sectoral development strategies and reviews of country economic situations.

22. The importance and impact of technological elements in the World Bank operations vary from sector to sector and from project to project. Some are more technology sensitive and intensive than others. Underlying all these activities is the crucial issue of technological choice, that is, the relevance of a given technology to a country's resources, needs and capabilities. While the primary aim should be to fulfil project objectives, attention should also be paid to the nature and character of the technology inherent in the project and how that technology impacts on the achievement of national socio-economic goals and endogenous capacity-building. The tendency to opt for well-tested technologies conforming to international and implicitly external standards needs to be tempered with the long-term imperative for innovation and the ability of domestic capacity to generate and adapt its own technologies and integrate them into the productive system. The right technological choice needs to be made at the earliest possible preparatory phase and sustained through the entire project cycle.

23. The Bank, although not explicitly recognized as a technological institution, has an important role to play in managing global technological change and supporting endogenous capacity-building. It has the unique ability, lacking in many countries, to translate policies into investment projects and establish linkages between the technological and productive systems.

24. This applies equally to the regional development banks, whose activities and mandates are similar, at the regional level, to those of the World Bank.

Facilitating an enhanced and more focused injection of endogenous capacity-building in science and technology into regional project cycles and ensuring regional participation in an organized coalition of resources are both critical to the success of a more targeted international approach. It is a policy issue and at times involves a trade-off between technological capacities and getting a project on stream. Implicit in such trade-offs are important issues, such as the design of projects that favour indigenous versus foreign technologies; support for the building of local technological capabilities; international competitive bidding to encourage local suppliers; the impact of liberal trade policies; and, the process of project preparation itself.

25. The role of the World Bank and regional development banks in endogenous capacity-building in science and technology can, in sum, be twofold: actively participating in the proposed coalition, in its concretization as well as in its functioning; and injecting this dimension, analogous to environment, into their project cycles and strengthening their in-house capacities.

C. Experience of the 1980s

26. Before attempting to delineate the contours and content of a new mechanism, it may be useful to make a candid review of the experience of the 1980s and the lessons to be learned for the future.

27. Efforts to organize a coalition of resources in the 1980s were crippled by the absence of the required degree of political support, especially in the donor community. The resources that developing countries were able to mobilize among themselves could not reach and are still not likely to reach the commonly accepted "critical mass" level. In particular, the following aspects need to be underscored:

(a) The donor community, especially some major countries, do not consider that the only way to support and finance science and technology is through the establishment of a large and distinct financing system or fund; they would prefer that those needs be met through existing financing bodies;

(b) Some donors wish to retain control of how the funds channelled by them are used and prefer specific programmes and projects to across-the-board contributions;

(c) Many countries are reluctant to make contributions to small specialized funds and are more willing to contribute to other multilateral funding institutions;

(d) Donor countries also prefer that the resources channelled by them into various bilateral and multilateral funding bodies be better coordinated in support of clearly defined programmes;

(e) Ways and means will need to be devised to facilitate closer cooperation with the private sector, the business community and other potential investment resources.

D. Basic assumptions

28. The situation described above leads to the following assumptions:

(a) An implicit distinction needs to be drawn between financing science and technology, in general, and financing the process of creating and strengthening endogenous capacities for developing countries in science and technology, in particular;

(b) Any attempt to design a new modality should avoid the example of previous efforts in the 1980s, which established a separate financing system or a fund to which member States were expected to contribute;

(c) Any decision at the intergovernmental level in the United Nations to create a new financing or coordinating mechanism should be preceded by close consultations with the donor community, bilateral as well as multilateral, reflecting their concerns in the design and structure of such a mechanism;

(d) Domestic resources should be organically linked as a manifestation of the commitment of the recipient country, as well as a means of achieving greater efficiency in the use of the totality of global resources for development in a synergistic manner.

III. CONCEPT OF COALITION AND SURVEY OF SOME ALTERNATIVE MODELS

29. The general contours of the concept of coalition are contained in resolutions adopted by the former Intergovernmental Committee on Science and Technology for Development and by the General Assembly at its forty-fourth and forty-sixth sessions. It is, in its most basic sense, a means through which resources can be pooled from like-minded donors, who are united in a spirit of partnership to achieve a common goal through collective efforts, while at the same time retaining some measure of control or influence on how and for what specific activity such resources are used. The key words in General Assembly resolutions 44/14 and 46/165 are "organize" and "more effective". The task is not simply to assemble a coalition but to organize and structure it in a manner that makes it more effective than current modalities in achieving its objective.

A. Basic principles

30. It may be useful to formulate some basic principles that could govern the concept of coalition and its mode of functioning:

(a) The coalition should be based on concrete programmes in a manner that makes it attractive for potential donors to participate, in line with their own perceptions and priorities;

(b) The focus should be primarily on coordination and policy coherence, not the establishment of a new fund and/or a new bureaucracy;

(c) The emphasis should be on qualitative additionality, not merely "quantitative additionality" to any substantial degree;

(d) The programmatic coverage must be more sharply and clearly defined, and centred around the concept of endogenous capacity-building;

(e) Priority needs to be given to programmes derived from a process of consultations and dialogues among the various stakeholders in the development process, so that science and technology priorities command the broadest societal consensus;

(f) The coalition should, within broad and commonly agreed criteria, provide for maximum flexibility and diversity in the approaches of participating organizations, in accordance with their own mandates and policies and the different economic and social conditions of their constituencies.

B. Alternative models

31. The task of constructing a coalition for science and technology has to be addressed bearing in mind the above parameters. Basically, two scenarios can be envisaged: (a) an inter-institutional modality for information exchange and policy coherence; and (b) a financing mechanism that is loosely structured but very different from a financing system or a traditional fund.

32. The first paradigm closely parallels the Committee of International Environmental Development Institutions and would involve, inter alia, sponsorship by a core group of donors, a declaration of intent subscribed to by the development financing community and annual meetings at which each member/agency would report through a common format on its activities in implementing the declaration and on inter-institutional cooperation.

33. Such a mechanism would serve to:

(a) Introduce procedures for the systematic examination of development activities by member organizations in endogenous capacity-building;

(b) Promote cooperation to ensure that necessary changes were made in the design and direction of technical assistance to developing countries so that these directly contributed to endogenous capacity-building activities undertaken by the United Nations Secretariat;

(c) Develop in-house capacities in the organizations concerned for technology assessment and for appraising their own impact on endogenous capacity-building;

(d) Assist developing countries, at their request, to introduce policies and programmes critical to endogenous capacity-building.

34. The mechanism would be designed to help participating organizations arrive at a set of agreed priorities and objectives, which could in turn provide a framework for more specific activities in a multilateral context, either bilaterally or directly between groups of donors.

35. While it is important to recognize what such a mechanism would accomplish, it is equally necessary to realize what it would not accomplish. In sum, such a

mechanism would raise consciousness among participating entities, provide a forum for the exchange of information and facilitate greater substantive cooperation among the signatories. It would not fund any programmes or projects and member organizations would not be required to pledge resources into any common pool.

36. A comparable mechanism is the Latin American Association of Development Financing Institutions. Founded in 1968, it is an organization that represents the Latin American development banking community. It channels resources of institutions within and outside the region to benefit the development financing institutions of Latin America; promotes cooperation and exchanges between markets; facilitates studies on problems of common interest; and brings together markets to increase their contributions to Latin American integration and improve their individual and collective actions. Its structure consists of a general assembly, an executive board and a secretariat. Similar associations exist in the Africa and Asia and Pacific regions, such as the Association of African Development Finance Institutions and the Association of Development Financing Institutions in Asia and the Pacific.

37. The second alternative, admittedly more difficult in present financial circumstances but more in tune with General Assembly resolutions 44/14 and 46/165, would be to design a financing mechanism through an organized coalition that would, attract voluntary contributions from like-minded bilateral and multilateral donors, united in their commitment to finance and support the process of endogenous capacity-building in developing countries. It needs to be emphasized that, to achieve any measure of success, such a mechanism would have to be conceived and constructed in a manner very different from the design of an orthodox financing institution, such as International Development Association or the International Fund for Agricultural Development or even a large voluntary fund modelled after UNDP or the United Nations Population Fund. Resources would need to be contributed for at least two or three years: capacity-building is a long-term process and requires the assurance of long-term commitments.

38. At this juncture, it may be useful to review briefly the experience of one of the successful multilateral funding mechanisms: the Consultative Group for International Agricultural Research (CGIAR). It provides a good example of how to generate donor support and commitment to achieve a global goal: research and training to enhance the quantity and quality of food production in developing countries. Established in 1971 with the support of nine donors, its level of funding increased from US$ 15 million in 1971 to over US$ 300 million in 1991. The number of donors increased to 23 in 1975 and subsequently to the current 40. It is now a multifaceted system, encompassing co-sponsors, donors, non-donor representatives of developing countries and international agricultural research centres. All members of the OECD Development Assistance Committee, other than New Zealand, are CGIAR donors, providing almost 75 per cent of the system's resources, while multilateral institutions contribute over 20 per cent and developing countries and international foundations contribute 1 per cent each. The World Bank, the Food and Agriculture Organization of the United Nations (FAO) and UNDP are co-sponsors, and the regional development banks for Africa, Asia and Latin America are members. The World Bank provides CGIAR with a chairman and executive secretariat, both based in Washington, D.C. and the Group is advised by a panel of experts, the Technical Advisory Committee, whose

secretariat is provided by FAO. The number of centres supported by CGIAR has grown from 4 to 16.

39. A somewhat modified alternative approach would be to focus exclusively on country-level coordination, following the example of the pilot programme on endogenous capacity-building currently being implemented by the United Nations in six developing countries. This programme is designed to assist countries concerned in building and strengthening their endogenous science and technology capacities through a country-driven consensus process. An important element of the programme is to harness a coalition of resources, at the country level, drawn from diverse external and domestic sources, in order to implement the portfolio of projects that are identified and initiate policy dialogues among a broad range of stakeholders/constituencies in the development process. This pilot programme has been well received by the donor community, including OECD, and could mark a point of departure in assembling a consortium of funds from like-minded donors united in their desire to assist specific countries in science and technology.

40. In constructing and organizing a new international association/council for science and technology, the establishment, preparatory actions and growth of CGIAR, could provide valuable pointers.

IV. PROPOSALS FOR ACTION

41. The following paragraphs present a number of proposals conceived in the framework of the second alternative (see paras. 32 and 38 above).

A. Structure

42. Any organized coalition of resources, to be effective in collecting, coordinating and funding country-level activities, should assume an appropriate organizational identity. In the present case, it could take the form of an association or a council with a broad-based membership, including multilateral funding bodies, such as the World Bank and the regional development banks; Member States; autonomous publicly funded institutions, such as the Canadian International Development Agency; the International Development Research Centre, the Swedish International Development Authority, the Swedish Agency for Research Cooperation with Developing Countries and the United States Agency for International Development; and international foundations. The association/council, the general body, could meet once every two years to enable members/participants to contribute resources, to monitor and review work, provide policy guidance and priorities and elect members to the executive board.

43. An executive board could be established to oversee and monitor the work of the association/council, allocate resources and approve projects. The board should have balanced representation from donor countries, donor organizations and developing countries.

44. A secretariat to service the work of the association/council, especially the work of the executive board, could be provided jointly by the United Nations Secretariat and UNDP/UNFSTD. The task of the secretariat would be: (a) to

receive project proposals from developing countries; (b) to help in their formulation where necessary; (c) to appraise projects from the perspective of endogenous capacity-building; (d) to undertake periodic evaluations; and (e) to perform such other functions as were assigned to it by the board.

B. Functions and mode of operation

45. The association/council would make resources available as grants, to be used to fund only those activities whose primary objectives were directly and demonstrably centred around endogenous capacity-building. The association/council would formulate appropriate guidelines in this respect. Members/participants would have the choice to decide which of the projects they would like to fund and in what manner. Co-financing would be another mechanism through which donors might combine some of their current endogenous capacity-building resources with financing from the association/council and direct such resources to support specific endogenous capacity-building programmes. Its mode of functioning would also enable multilateral/bilateral coordination.

46. Another distinctive feature would be a deliberate policy of harnessing domestic resources to the extent possible, in a spirit of partnership. Such an organic linkage would serve several purposes. It would induce a sense of commitment from the recipient country and enhance the probability that the project would achieve the status of a high national priority, worthy of being allocated scarce domestic and foreign resources. It would also answer the often expressed concern that externally aided development projects are largely donor-driven. However, since the dynamics that drive domestic funding and external aid are different, it would not be easy to bring about such an integration. The precise modalities would need to be worked out, bearing in mind the wide economic disparities among developing countries. Special considerations should guide funding the needs of the least developed countries, for which even a token domestic funding (roughly 5 per cent) would be desirable, if only to give the sense that they were partners in a project and not merely recipients. The possibility of contributions in kind should also be explored.

47. Endogenous capacity-building in science and technology must by definition be country-driven, and national execution is neither an adjunct nor a means of delivery but is an integral part of the project. In this spirit, domestic resources and skills should be drawn on to the fullest extent possible. The use of external inputs and expertise should be a last resort only and should be initiated on the basis of a joint determination by the project management and the country concerned.

48. A programme or portfolio approach, encompassing a range of interconnected activities, should be adopted. The process of prioritization and formulation of programmes would also be unique. There is a growing awareness that choosing science and technology priorities is a most complex and intricate task and that, to be enduring, the full spectrum of stakeholders in the development process must be involved. That suggests the need to stimulate domestic consensus-building, a form of participatory priority setting, through a series of policy dialogues. Such dialogues, adjusted to the specificity of each country, are expected to produce scientific and technological programmes derived from technology-sensitive development domains.

49. The association/council, the organized coalition of resources, although not altogether excluding other programmes, should give high priority to supporting programmes that arise from such a domestic consultative consensus-building process. Countries that seek assistance from the association/council should be requested to describe not only the content of the project but also how the proposals are formulated, which should be a major factor in deliberations by the executive board in approving projects.

50. The secretariat of the association/council would be provided jointly by the United Nations Secretariat and UNFSTD/UNDP. The United Nations share of the relating costs would be met from within the existing resources approved under section 39 of the United Nations programme budget. The executive board would establish detailed criteria/guidelines for appraisal, in order to ensure that the primary focus of programmes approved was endogenous capacity-building and generic science and technology. Such guidelines could also be adopted by donor organizations, in order to make their work in science and technology more focused and targeted on capacity-building.

51. There is a growing awareness on the part of development banks that they must broaden their criteria/guidelines to include social as well as economic impact. Equally imperative, in today's knowledge-intensive techno-economic paradigm, is the injection of the technological impact into the project cycle, from design through formulation to appraisal and evaluation. The association/council must be in the vanguard of the effort to raise the level of consciousness of the donor community in these respect.

52. The association/council would have to ensure that the programmes that it supported were in full harmony with sustainable development and that they did not further endanger the global ecological balance. Sound technological choices, a critical component of endogenous capacity-building, implies and requires that they be environmentally sound, otherwise the choice itself is faulty and unsustainable. The executive board, in determining the criteria for appraisal and evaluation, would have to pay particular attention to this question. In doing so, it would also be contributing to the achievement of one of the objectives of UNCED - namely, to examine the possibility of a special international fund and other innovative approaches for establishing environmentally sound technologies. The emphasis, however, would be on building endogenous capacities for managing technological change in the direction of environmentally sound technologies, rather than merely providing access to and transferring such technologies.

Notes

1/ A compendium of excerpts on science and technology related issues and recommendations of Agenda 21 is being made available to the Commission in a separate document.

2/ See note by the Secretary-General on the comprehensive policy review of operational activities of the United Nations system (A/47/419/Add.1) and General Assembly resolution 47/199.

Notes (continued)

3/ See report of the Secretary-General on the study of the efficiency of the United Nations system in the field of science and technology for development (A/36/240).